



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/073,888

02/14/2002

Jong-Weon Moon

8733.590.00

6732

30827

7590

12/30/2003

MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

DUONG, TAI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/073,888

Applicant(s)

MOON ET AL.

Examiner

Tai Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-21 is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim 14 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 14 replaces a part set forth in the claim from which it depends. Independent claim 8 recites a single cholesteric liquid crystal color filter layer while dependent claim 14 recites the cholesteric liquid crystal color filter layer being multilayered.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 8 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Narita et al.

As to claims 1 and 6, note Fig. 3 and column 7 (lines 17-22 and lines 65-67) which identically disclose the claimed reflective LCD device comprising a light absorption layer 41 on the second substrate 40, and a CLC color filter layer 11 which can be multilayered or stacked wherein each layer of the red, green and blue sub-color filters reflect red, green and blue light, respectively (col. 6, line 10 – col. 8, line 16). For claims 8 and 12, note the additional Fig. 16 which discloses each of the sub-color filters of the single CLC color filter layer being divided into a plurality of regions in the vertical or column direction (col. 13, lines 49-51).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4, 7, 9-11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Narita et al in view of Applicant's Prior Art Figs. 1 and 2 (APA's Figs. 1 - 2), Fukunaga et al and Nakamura et al of record.

The only differences between Narita's reflective LCD device and that of the instant claims are the arrangement of the TFTs with respect to the first and second transparent electrodes (claims 2, 3, 9 and 10), the arrangement of the quarter wave plate and the polarizing plate (claims 4 and 11), and the central wavelength of reflection for red color being between about 620 and 650 nm.

Narita et al disclose that TFTs can be used (col. 7, lines 41-45) and the central wavelength of reflection for red color being 610 nm (col. 13, lines 14-18). APA's Figs. 1-2 discloses that it was known to employ the above arrangement of the quarter wave plate and the polarizing plate, and the central wavelength of reflection for red color being about 640 nm (specification, pages 6-7). Fukunaga et al disclose in Figs. 3, 11 and 16 that it was known to employ TFTs 22 connected to the first transparent electrode (pixel electrode). Nakamura et al disclose in Fig. 1 that it was known to employ TFTs at the cholesteric color filter 18a side (col. 5, lines 9-48). Thus, it would have been obvious to a person of ordinary skill in the art to employ in Narita's LCD device TFTs connected

to the first transparent electrode (pixel electrode) for selectively activating the pixels of the display device with no cross-talk. Also, it would have been obvious to a person of ordinary skill in the art to employ the TFTs connected to the second transparent electrode for preventing color cross-talk between adjacent color sub-pixels. It would have been obvious to a person of ordinary skill in the art to employ in Narita's device the above arrangement of the quarter wave plate and the polarizing plate for the ease of aligning the optical axis of the quarter wave plate with the polarizing axis of the polarizer.

Claims 15-21 are allowed over the prior art of record.

Claim 15 is allowable over the prior art of record because none of the prior art of record discloses or suggests "a cholesteric liquid crystal color filter layer on the light absorption layer, *the cholesteric liquid crystal color filter layer being multi-layered and each layer of the cholesteric liquid crystal (CLC) color filter layer including sub-color filters for red, green and blue colors arranged in an alternating order, each of the sub-color filters being divided into a plurality of regions*" (see Fig. 7). The remaining claims are also allowed since they depend on the allowed claim.

Applicant's arguments with respect to amended claims 1 and 8 have been considered but are moot in view of the new ground(s) of rejection.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Lee discloses additional blue CLC in red and/or green CLC color filter, additional red and/or green CLC color filter in the blue CLC color filter.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Tai Duong at telephone number 703 308-4873.


TOANTON
PRIMARY EXAMINER

TVD

12/03